IN THE CLAIMS:

Please CANCEL claims 1-15, 18, 19 and 24-27 without prejudice to or disclaimer of the recited subject matter.

Please AMEND claims 16, 17 and 20-23, and ADD new claims 28-33, as follows. For the Examiner's convenience, all the claims currently pending in this application, including those not currently being amended, have been reproduced below.

1-15. (Canceled)

16. (Currently Amended) An exposure method comprising the steps of:

illuminating a ~~pattern formed on a~~ reticle, by use of light from an exposure light source;

projecting ~~the~~ a pattern of the reticle onto an object to be exposed, by use of a projection optical system; and

measuring an optical characteristic of the projection optical system by use of an interferometer and on the basis of light from the exposure light source, wherein said measuring step includes a step of dividing light passed through the projection optical system into two light beams and for causing interference of the two light beams.

17. (Currently Amended) A device manufacturing method comprising the steps of:

preparing a reticle;

illuminating ~~a pattern formed on~~ the reticle, by use of light from an exposure light source;

projecting ~~the~~ a pattern of the reticle onto an object to be exposed, by use of a projection optical system; and

measuring an optical characteristic of the projection optical system by use of an interferometer and on the basis of light from the exposure light source, wherein said measuring step includes a step of dividing light passed through the projection optical system into two light beams and for causing interference of the two light beams.

18-19. (Canceled)

20. (Currently Amended) A projection exposure apparatus comprising:

a projection optical system for projecting a pattern of a reticle, illuminated with light from a light source, onto an object to be exposed;

an interferometer for measuring an optical characteristic of said projection optical system, by use of light from the light source; and

an adjusting mechanism for adjusting aberration of said projection optical system, on the basis of ~~the~~ a result of the measurement by said interferometer, wherein said adjusting mechanism includes driving means for moving a predetermined lens of said projection optical system.

21. (Currently Amended) An apparatus according to Claim 20, wherein said adjusting mechanism ~~includes driving means for moving a~~ moves the predetermined lens of said projection optical system in an optical axis direction of said projection optical system.

22. (Currently Amended) An apparatus according to Claim 20, wherein said adjusting mechanism ~~includes driving means for moving a~~ moves the predetermined lens of said projection optical system in a direction perpendicular to an optical axis direction of said projection optical system.

23. (Currently Amended) An apparatus according to Claim 20, wherein said adjusting mechanism ~~includes driving means for moving a~~ moves the predetermined lens of said projection optical system in a direction having a tilt with respect to an optical axis direction of said projection optical system.

24-27. (Canceled)

28. (New) A projection exposure apparatus comprising:

a projection optical system for projecting a pattern of a reticle, illuminated with light from a light source, onto an object to be exposed;

an interferometer for measuring an optical characteristic of said projection optical system by use of light from the light source; and

an adjusting mechanism for adjusting aberration of said projection optical system on the basis of a result of measurement by said interferometer, wherein said adjusting mechanism includes at least one of a spacing adjusting mechanism for adjusting a spacing between lenses of said projection optical system, and an eccentricity adjusting mechanism for adjusting an eccentricity amount of a lens of said projection optical system.

29. (New) A projection exposure apparatus comprising:

a projection optical system for projecting a pattern of a reticle, illuminated with light from a light source, onto an object to be exposed; and

an interferometer for measuring an optical characteristic of said projection optical system by use of light from the light source, wherein said interferometer measures the optical characteristic of said projection optical system on the basis of a fringe scan method.

30. (New) A projection exposure apparatus comprising:

a projection optical system for projecting a pattern of a reticle, illuminated with light from a light source, onto an object to be exposed; and

an interferometer for measuring an optical characteristic of said projection optical system by use of light from the light source, wherein said interferometer measures the optical characteristic in a single path with respect to said projection optical system.

31. (New) A projection exposure apparatus comprising:

a projection optical system for projecting a pattern of a reticle, illuminated with light from a light source, onto an object to be exposed; and

an interferometer for measuring an optical characteristic of said projection optical system by use of light from the light source, wherein said interferometer is one of a radial shear type, a lateral shear type and a Twyman-Green type.

32. (New) A projection exposure apparatus comprising:

a projection optical system for projecting a pattern of a reticle, illuminated with light from a light source, onto an object to be exposed; and

an interferometer for measuring an optical characteristic of said projection optical system by use of light from the light source,

wherein said interferometer includes an optical element for dividing light passed through said projection optical system into two light beams.

33. (New) An apparatus according to Claim 32, wherein said optical element is one of a half mirror and a parallel plane plate.